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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/780,160

02/17/2004

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EXAMINER

BEAMER, TEMICA M

ART UNIT

PAPER NUMBER

2617

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/780,160	<b>Applicant(s)</b> BYE, RICHARD A.	
	<b>Examiner</b> TEMICA M. BEAMER	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1/25/2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 13-21, 23, 24, 26-34, 36, 37 and 39 is/are rejected.
- 7) ☒ Claim(s) 9, 12, 22, 25, 35 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 1/25/2008 have been fully considered but they are not persuasive. Applicant's argument throughout the response is that Ibe fails to disclose allocating resources to service the call based on call servicing factors (i.e., factors such as signal strength, available bandwidth and cost). The examiner, however, disagrees.

Ibe discloses in figure 1, multiple access points that wireless devices can communicate with. Inherently, the mobile device will choose which access point which has the strongest signal strength. Further, Ibe discloses that when a user of a mobile device (laptop) decides to move to a new location, and when it is detected that when the device roams into a building of poor cellular coverage and good WLAN coverage (reads on initiating a handoff before loss of a signal and comparing the signal strengths of multiple access points), the connection will be handed off to the system with the best coverage area (0044, 0045).

The applicant further argues that Ibe fails to disclose making the handoff decision based on call factors in the servicing and foreign network. However, this limitation is required alternatively in the servicing network or the foreign network. As discussed above, Ibe discloses determining the signal strength of the servicing network to determine if handoff is necessary.

Based on the above arguments, the examiner maintains that Ibe, taken alone or in combination, reads on the invention as presently claimed. The rejections to the claims are set forth below.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3, 6, 10, 11, 13-16, 19, 23, 24, 26-29, 32, 36, 37 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Ibe et al (Ibe), U.S. Patent Pub. No. 2004/0218575.

Regarding claim 1, Ibe discloses a method for servicing communications from a Call Control Entity (CCE) to a wireless terminal, comprising: communicatively coupling the CCE with a wireless local area network (WLAN), the WLAN having a plurality of AP's; receiving at the CCE a call for the wireless terminal; determining the physical location of the wireless terminal relative to coverage areas of individual AP's within the WLAN (0038); allocating WLAN resources to service the call, when the wireless terminal is within the coverage area of at least one AP based on call servicing factors (signal strength) (0044, 0045); delivering the call to the wireless terminal via the WLAN if the wireless terminal is within the coverage area of the WLAN and the call servicing factors allow the call to be serviced by the WLAN or attempting to deliver the call to the wireless terminal via an alternate network based on the servicing factors (0039, 0044, 0045 and 0047).

Regarding claim 3, lbe discloses the method of claim 1, further comprising:  
determining a location of the wireless terminal relative to a coverage area of the WLAN; determining the location of the wireless terminal relative to a coverage area of the WLAN and WLAN resources are allocated to service the call; and servicing the call with the alternate network when the location of the wireless terminal is within the coverage area of the WLAN; and servicing the call with the cellular network when the location of the wireless terminal is outside the coverage area of the WLAN but within the coverage area of the alternate network (0039 and 0044; figure 1).

Regarding claim 6, lbe discloses the method of claim 3, further comprising initiating a handoff of the call from the WLAN to the cellular network before a loss of signal with the WLAN is expected to occur, based on the relative motion of the wireless terminal towards a boundary of a coverage area of the WLAN (0044, 0045).

Regarding claim 10, lbe discloses the method of claim 1, further comprising comparing signal strengths from a plurality of Access Points (APs) in the WLAN to determine whether to service the wireless terminal with the WLAN or the cellular network (0044 and 0045).

Regarding claim 11, lbe discloses the method of claim 3, further comprising observing the signal strengths over time from a plurality of APs to predict whether the wireless terminal is leaving a coverage area of the WLAN (0045).

Regarding claim 13, lbe discloses the method of claim 3, further comprising: servicing the call to the wireless terminal via the cellular network when the signal

quality of a serving Access Point (AP) fails to meet the first handoff threshold and when signal strengths of all Access Points (APs) in the WLAN are decreasing (0044).

Regarding claim 14, lbe discloses a method for servicing communications to a wireless terminal with a wireless local area network (WLAN) and an alternative network, comprising: servicing a call to the wireless terminal via the WLAN; determining if a signal quality between the WLAN and the wireless terminal fails to meet a first handoff threshold; establishing a parallel communication path to the wireless terminal via the alternative network to service the call; and servicing the call to the wireless terminal via the alternative network when the signal quality fails to meet a second handoff threshold; terminating the communication path between the wireless terminal and the WLAN when the signal quality between the WLAN and the wireless terminal decreases below the second handoff threshold; servicing the call to the wireless terminal via the WLAN when the signal quality increases above the first handoff threshold; and terminating the communication path between the wireless terminal and the alternative network when the signal quality between the WLAN and the wireless terminal increases above the first handoff threshold (0044-0046).

Regarding claim 15, lbe discloses the method of claim 14, further comprising: determining a location of the wireless terminal relative to a coverage area of the WLAN; determining the location of the wireless terminal relative to a coverage area of the alternative network; servicing the call with the WLAN when the location of the wireless terminal is within the coverage area of the WLAN; and servicing the call

with the alternative network when the location of the wireless terminal is outside the coverage area of the WLAN but within the coverage area of the alternative network (0039, 0044).

Regarding claim 16, lbe discloses the method of claim 14, wherein the alternative network comprises a cellular network (figure 1).

Regarding claim 19, lbe discloses the method of claim 14, further comprising initiating a handoff of the call from the WLAN to the alternative network before a loss of signal within the WLAN based on the relative motion of the wireless terminal relative to a boundary of a coverage area of the WLAN (0044, 0045).

Regarding claim 23, lbe discloses the method of claim 14, further comprising comparing signal strengths from a plurality of Access Points (APs) in the WLAN to determine whether to service the wireless terminal with the WLAN or the alternative network (0044, 0045).

Regarding claim 24, lbe discloses the method of claim 14, further comprising observing the signal strengths over time (continuous) from a plurality of APs to predict whether the wireless terminal is leaving a coverage area of the WLAN (0045).

Regarding claim 26, lbe discloses the method of claim 14, further comprising: servicing the call to the wireless terminal via the alternative network when the signal quality of a serving Access Point (AP) fails to meet the first handoff threshold and

when a signal strength of all Access Points (APs) in the WLAN are decreasing (0044).

Regarding claim 27, lbe discloses a method for servicing a wireless terminal via a wireless local area network (WLAN) comprising: servicing a call with the wireless terminal via a cellular network; determining that a service quality supportable by the WLAN meets a first handoff threshold; establishing a parallel communication path to the wireless terminal via the WLAN; and when the service quality supported by the WLAN meets a second handoff threshold, terminating the communication path to the wireless terminal via the cellular network; and when the service quality supported by the WLAN subsequently fails meets the first handoff threshold, terminating the communication path to the wireless terminal via the WLAN (0044-0047).

Regarding claim 28, lbe discloses the method of claim 27, further comprising: determining a location of the wireless terminal relative to a coverage area of the WLAN; determining the location of the wireless terminal relative to a coverage area of the alternative network; servicing the call with the WLAN when the location of the wireless terminal is within the coverage area of the WLAN; and servicing the call with the alternative network when the location of the wireless terminal is outside a coverage area of the WLAN but within the coverage area of the alternative network (0039-0044).

Regarding claim 29, lbe discloses the method of claim 27, wherein the alternative network comprises a cellular network (figure 1).



Regarding claim 32, lbe discloses the method of claim 27, further comprising initiating a handoff of the call from the WLAN to the alternative network before a loss of signal within the WLAN based on the relative motion of the wireless terminal relative to a boundary of a coverage area of the WLAN (0044, 0045).

Regarding claim 35, lbe discloses the method of claim 28, further comprising determining whether to handoff/deliver call to wireless terminal via WLAN or the alternative network based on comparing the signal quality of the WLAN and the signal quality of the alternative network (0044-0046).

Regarding claim 36, lbe discloses the method of claim 27, further comprising comparing signal strengths from a plurality of Access Points (APs) in the WLAN to determine whether service the wireless terminal with the WLAN or the alternative network (0044-0046).

Regarding claim 37, lbe discloses the method of claim 27, further comprising observing the signal strengths over time from a plurality of APs to predict whether the wireless terminal is leaving a coverage area of the WLAN (0045).

Regarding claim 38, lbe discloses the method of claim 27, further comprising: comparing relative signal quality of the parallel communication path and the WLAN; and choosing to service the call based on relative service quality between the parallel communication path and the WLAN (0044, 0045).

Regarding claim 39, lbe discloses the method of claim 27, further comprising: servicing the call to the wireless terminal via the alternative network when the signal

quality of a serving Access Point (AP) fails to meet the first handoff threshold and when a signal strength of all Access Points (APs) in the WLAN are decreasing (0044).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ibe in view of Goss, U.S. Patent No. 6,320,534.

Regarding claim 2, Ibe discloses the method of claim 1 as described above. Ibe, however, fails to disclose delivering the call to voice mail if the call cannot be delivered to the wireless terminal.

In a similar field of endeavor, Goss discloses a location based personal telephone routing system. Goss further discloses delivering a call to voice mail if the call cannot be delivered to the mobile (col. 5, lines 1-15).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Ibe with the teachings of Goss for the purpose of ensuring that a called party will not miss an important message.

5. Claims 4, 5, 18 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ibe in view of Rajkotia et al (Rajkotia), U.S. Patent Pub. No. 2004/0121774).

Regarding claim 4, Ibe discloses the method of claim 3 as described above. Ibe, however, fails to disclose determining the location of the wireless terminal with Global Positioning Satellites (GPS).

In a similar field of endeavor, Rajkotia discloses an apparatus and method for performing an interfrequency handoff in a wireless network. Rajkotia further discloses determining the location of the wireless terminal with Global Positioning Satellites (GPS). determining the location of the wireless terminal with Global Positioning Satellites (GPS) (0052).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Ibe with the teachings of Rajkotia for the purpose of more accurately locating the mobile station when it is traveling through multiple systems.

Regarding claims 5, the combination of Ibe and Rajkotia discloses the method of claim 4, further comprising: determining a relative motion and location of the wireless terminal relative to a boundary of a coverage area of the WLAN; determining a relative motion and location of the wireless terminal relative to a coverage area of the cellular network; servicing the call with the WLAN when the location of the wireless terminal is within the coverage area of the WLAN; and servicing the call with the cellular network when: the relative motion of the wireless terminal is towards the boundary of the coverage area of the WLAN; or the location of the wireless

terminal is within the coverage area of the cellular network and the wireless terminal is predicted to leave the coverage area of the WLAN (Rajkotia, 0070-0076).

Regarding claims 18 and 31, Ibe discloses the method of claims 14 and 27 as described above. Ibe, however, fails to disclose determining a relative motion and location of the wireless terminal relative to a boundary of a coverage area of the WLAN; determining a relative motion and location of the wireless terminal relative to a coverage area of the alternative network; servicing the call with the WLAN when the location of the wireless terminal is within the coverage area of the WLAN; and servicing the call with the alternative network when: the relative motion of the wireless terminal is towards the boundary of the coverage area of the WLAN; or the location of the wireless terminal is within the coverage area of the alternative network and predicted to leave the coverage area of the WLAN.

Rajkotia discloses this limitation (0070-0076).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Ibe with the teachings of Rajkotia for the purpose of ensuring the call is continued.

6. Claims 7, 8, 20, 21, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ibe in view of Wang et al (Wang), U.S. Patent Pub. No. 2004/0192341.

Regarding claims 7, 20 and 33, Ibe discloses the method of claims 3, 14 and 27 as described above. Ibe, however, fails to disclose predicting if the wireless terminal will leave a coverage area of the WLAN based on previous movements of the wireless terminal relative to the coverage area of the WLAN.

In a similar field of endeavor, Wang discloses an apparatus and an associated method for reserving resources in a mobile communication system through the use of historical indicia.

Wang further discloses predicting if a wireless terminal will leave a coverage area of a network based on previous movements of the wireless terminal relative to the coverage area of the network (0044); figure 7).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Ibe with the teachings of Wang for the purpose of knowing whether resources should be reserved for the mobile in an effort to maintain communication.

Regarding claims 8, 21 and 34, the combination of Ibe and Wang discloses the method of claims 7, 20 and 33 further comprising servicing the call with the WLAN when the wireless terminal is predicted to stay within the coverage area of the WLAN (0045).

7. Claims 17 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ibe in view of well known prior art.

Regarding claims 17 and 30, Ibe discloses the methods of claims 14 and 27 as described above.

Ibe, however, fails to disclose wherein the alternative network comprises a satellite-based network.

The examiner contends, however, that satellite networks are well known in art and it is further known for handoff functions to take place in satellite networks and the examiner takes official notice as such.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify Ibe with the teachings of well known prior art since it is known that satellite systems can in certain instances, provide more coverage to users.

#### ***Allowable Subject Matter***

8. Claims 9, 12, 22, 25, 35 and 38 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TEMICA M. BEAMER whose telephone number is (571)272-7797. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Temica M. Beamer/

Primary Examiner, Art Unit 2617